

NMCP COVID-19 Literature Report #35: Friday, 14 August 2020

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Purpose: These now weekly reports, published on Fridays, are curated collections of current research, evidence reviews, and news regarding the COVID-19 pandemic. Please feel free to reach out with questions, suggestions for future topics, or any other concerns.

All reports are available online at <https://nmcp.libguides.com/covidreport>. Access is private; you will need to use the direct link or bookmark the URL, along with the case-sensitive password "NMCPfinest".

Disclaimer: I am not a medical professional. This document is current as of the date noted above. While I make every effort to find and summarize available data, things are changing rapidly, with new research and potentially conflicting literature published daily.

Statistics

Global 20,960,424 confirmed cases and 760,371 deaths in 188 countries/regions

*United States** top 5 states by cases (Virginia is ranked 16th)

	TOTAL US	CA	FL	TX	NY	GA
Confirmed Cases	5,257,787	603,072	557,137	531,413	423,440	228,668
Tested	64,831,306	9,445,493	4,122,118	4,230,763	6,816,381	1,942,610
Recovered	NA	NA	NA	375,760	73,907	NA
Deaths	167,295	10,999	8,913	9,795	32,805	4,538

*see census.gov for current US Population data; NA: not all data available

[JHU CSSE](https://jhu.csse.cse.brown.edu) as of 1100 EDT 14 August 2020

Virginia	Total	Chesapeake	Hampton	Newport News	Norfolk	Portsmouth	Suffolk	Virginia Beach
Cases	104,838	3,158	1,309	1,936	3,895	1,952	1,379	5,277
Hospitalized	8,650	250	52	83	223	134	97	261
Deaths	2,370	41	7	20	33	25	53	55

[VA DOH](https://www.vadepa.org) as of 1100 EDT 14 August 2020

Special Reports

[ASPR TRACIE](#): Healthcare System Preparedness for Secondary Disasters during COVID-19 (updated 24 June 2020)

This report includes guidance and various considerations during "dual" emergencies such as hurricane or other natural disaster during a pandemic.

"Request: The requestor asked for resources related to COVID-19 and secondary disasters (or dual disasters), particularly as it pertains to health and medical considerations and need for facilities and communities to shelter-in-place or evacuate during disasters (e.g., hurricanes, tornadoes, and wildfires) while requiring to maintain social distancing practices.

Response: Secondary/ dual disasters (e.g., natural disasters, cyberattacks, large-scale transportation accidents, mass casualty incidents) that strike during the COVID-19 pandemic will further stress the health and medical system and threaten vulnerable residents and infrastructure. Below are considerations for healthcare and emergency management professionals when planning for all-hazard secondary disasters during a public health emergency."

Evidence Summaries

[CEBM](#): How can healthcare workers adapt non-pharmacological treatment – whilst maintaining safety – when treating people with COVID-19 and delirium? (published 06 May 2020; updated 11 August 2020)

- Delirium may be part of the spectrum of COVID-19 symptoms that patients present with. In some cases, the delirium may be severe and have a rapid onset. Clinicians should have a high level of suspicion of COVID-19 when considering a possible cause of the delirium.
- Non-pharmacological interventions (See Box 1) are the mainstay for the management of delirium in all settings; there is consistent evidence of benefit in the prevention of delirium
- Caution is needed in use of psychotropic medication in the light of potential interactions with COVID-19 specific drugs
- Communication and care are compromised by the need for Personal Protection Equipment (PPE) in COVID-19
- Use of remote consultations may be necessary and is often feasible

Selected Literature: Peer-Reviewed Journals

Date given is the date published or posted online; often these papers are ahead of print.

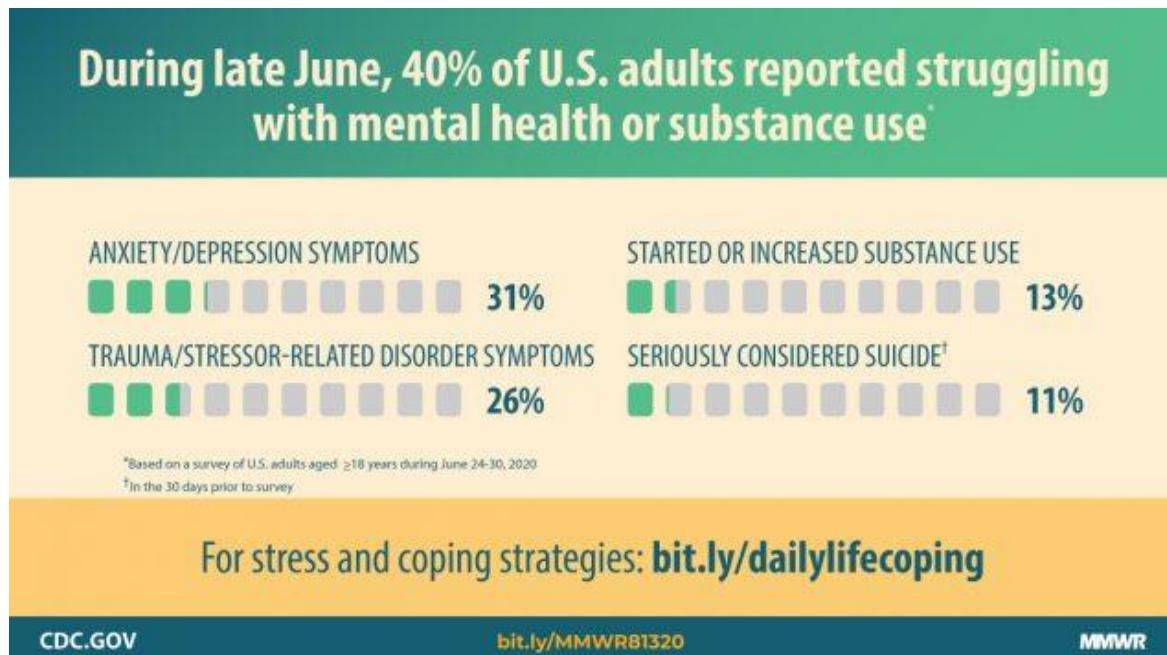
14 August 2020

MMWR: Mental Health, Substance Use, and Suicidal Ideation During the COVID-19 Pandemic — United States, June 24–30, 2020

"Communities have faced mental health challenges related to COVID-19–associated morbidity, mortality, and mitigation activities.

During June 24–30, 2020, U.S. adults reported considerably elevated adverse mental health conditions associated with COVID-19. Younger adults, racial/ethnic minorities, essential workers, and unpaid adult caregivers reported having experienced disproportionately worse mental health outcomes, increased substance use, and elevated suicidal ideation.

The public health response to the COVID-19 pandemic should increase intervention and prevention efforts to address associated mental health conditions. Community-level efforts, including health communication strategies, should prioritize young adults, racial/ethnic minorities, essential workers, and unpaid adult caregivers."



13 August 2020

JAMA: Effect of an Inactivated Vaccine Against SARS-CoV-2 on Safety and Immunogenicity
Outcomes: Interim Analysis of 2 Randomized Clinical Trials

"Question: What are the safety and immunogenicity of an inactivated vaccine against coronavirus disease 2019 (COVID-19)?

Findings: This was an interim analysis of 2 randomized placebo-controlled trials. In 96 healthy adults in a phase 1 trial of patients randomized to aluminum hydroxide (alum) only and low, medium, and high vaccine doses on days 0, 28, and 56, 7-day adverse reactions occurred in 12.5%, 20.8%, 16.7%, and 25.0%, respectively; geometric mean titers of neutralizing antibodies at day 14 after the third injection were 316, 206 and 297 in the low-, medium-, and high-dose groups, respectively. In 224 healthy adults randomized to the medium dose, 7-day adverse reactions occurred in 6.0% and 14.3% of the participants who received injections on days 0 and 14 vs alum only, and 19.0% and 17.9% who received injections on days 0 and 21 vs alum only, respectively; geometric mean titers of neutralizing antibodies in the vaccine groups at day 14 after the second injection were 121 vs 247, respectively.

Meaning: This inactivated COVID-19 vaccine had a low rate of adverse reactions and demonstrated immunogenicity, but longer-term assessment of safety and efficacy will require phase 3 trials."

JAMA: Characteristics and Outcomes of COVID-19 Patients During Initial Peak and Resurgence in the Houston Metropolitan Area

"An increase in COVID-19 hospitalizations was observed across a major health care system in the greater Houston area, which was temporally related to phased reopening. Throughout the reporting period, hospital admission guidelines were consistently based on risk stratification by evaluation of severity of symptoms, comorbidities, diagnostic findings, and pulse oximetry. During surge 2, the absolute number of RT-PCR tests performed increased, as did the proportion of positive results. Therefore, higher hospital census likely reflects higher rates of community COVID-19 prevalence. Surge 2 data indicated a demographic shift of the pandemic toward a younger, predominantly Hispanic, and lower socioeconomic patient population with an overall lower comorbidity burden, ICU admission rate, and in-hospital mortality. The demographic and socioeconomic shift may reflect return to work and relaxation of COVID-19 transmission mitigation practices. Additionally, in-hospital mortality among ICU-treated surge 2 patients was 4.6% lower than that in surge 1. The overall better outcomes during surge 2 may be explained by a combination of lower comorbidity burden, lesser disease severity, and better medical management."

[JAMA](#): Outcomes Associated With Use of a Kinin B2 Receptor Antagonist Among Patients With COVID-19

"This study found evidence of an association between receipt of icatibant and improved oxygenation, suggesting that targeting the kallikrein-kinin system in patients with COVID-19, especially in the early stages of disease when patients are hypoxic and are admitted to the hospital, might be beneficial. An important limitation of the current study is that it is exploratory and not a randomized clinical trial. The observed resurgence of oxygen need in some patients after icatibant may be due to icatibant's short half life of about 2 hours.³ We propose that treatment strategies targeting the kallikrein-kinin system should be investigated in randomized trials for patients with COVID-19."

12 August 2020

[Ann Intern Med](#): Obesity and Mortality Among Patients Diagnosed With COVID-19: Results From an Integrated Health Care Organization

"Design: Retrospective cohort study of Kaiser Permanente Southern California members diagnosed with COVID-19 from 13 February to 2 May 2020.

Results: Among 6916 patients with COVID-19, there was a J-shaped association between BMI and risk for death, even after adjustment for obesity-related comorbidities. Compared with patients with a BMI of 18.5 to 24 kg/m², those with BMIs of 40 to 44 kg/m² and greater than 45 kg/m² had relative risks of 2.68 (95% CI, 1.43 to 5.04) and 4.18 (CI, 2.12 to 8.26), respectively. This risk was most striking among those aged 60 years or younger and men. Increased risk for death associated with Black or Latino race/ethnicity or other sociodemographic characteristics was not detected.

Conclusion: Obesity plays a profound role in risk for death from COVID-19, particularly in male patients and younger populations. Our capitated system with more equalized health care access may explain the absence of effect of racial/ethnic and socioeconomic disparities on death. Our data highlight the leading role of severe obesity over correlated risk factors, providing a target for early intervention."

[JAMA](#): Cascading Risks of COVID-19 Resurgence During an Active 2020 Atlantic Hurricane Season

"Three steps could be taken to help diminish combined hurricane and COVID-19 pandemic risks during the coming months. First, reestablish the COVID-19 prevention lifestyle. Steeply rising COVID-19 case numbers and death rates throughout the hurricane coast is sufficient justification for reinstating physical distancing and related mitigation strategies that have proven effective....

Second, improve communications to shape safer evacuation and sheltering. One of the major challenges faced at the moment is effectively crafting the complex messaging about

the competing and compounding risks in a clear, concise, compelling manner. Communication strategies must activate and motivate populations to evacuate away from severe storm threats and shelter safely....

Third, learn from each 2020 storm and refine operations....

These 3 strategies, if implemented immediately and forthrightly, could improve response and possibly save lives during the uncertain coming months, and also could pave the way for more sophisticated disaster management in future years."

Nature: Phase 1/2 study of COVID-19 RNA vaccine BNT162b1 in adults

"In March 2020, the World Health Organization (WHO) declared a pandemic of coronavirus disease 2019 (COVID-19), due to severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)1. With rapidly accumulating cases and deaths reported globally2, a vaccine is urgently needed. We report the available safety, tolerability, and immunogenicity data from an ongoing placebo-controlled, observer-blinded dose escalation study among 45 healthy adults, 18 to 55 years of age, randomized to receive 2 doses, separated by 21 days, of 10 µg, 30 µg, or 100 µg of BNT162b1, a lipid nanoparticle-formulated, nucleoside-modified mRNA vaccine that encodes trimerized SARS-CoV-2 spike glycoprotein receptor-binding domain (RBD). Local reactions and systemic events were dose-dependent, generally mild to moderate, and transient. A second vaccination with 100 µg was not administered due to increased reactogenicity and a lack of meaningfully increased immunogenicity after a single dose compared to the 30 µg dose. RBD-binding IgG concentrations and SARS-CoV-2 neutralizing titers in sera increased with dose level and after a second dose. Geometric mean neutralizing titers reached 1.9- to 4.6-fold that of a panel of COVID-19 convalescent human sera at least 14 days after a positive SARS-CoV-2 PCR. These results support further evaluation of this mRNA vaccine candidate."

ClinicalTrials.gov identifier: [NCT04368728](https://clinicaltrials.gov/ct2/show/NCT04368728)

PLoS One: Risk factors for severe illness in hospitalized Covid-19 patients at a regional hospital

Retrospective, observational case series of the first 117 consecutive patients hospitalized for Covid-19 from March 1 to April 12, 2020.

"At our regional medical center, patients with Covid-19 had an average length of stay just under 12 days, required ICU care in 31% of cases, and had a 25% mortality rate. Patients with increased sputum production and higher supplemental oxygen requirements at admission, and insulin dependent diabetes or chronic kidney disease may be at increased risk for severe illness. A model for predicting intensive care unit admission or death with excellent discrimination was created that may aid in treatment decisions and resource allocation. Early identification of patients at increased risk for severe illness may lead to improved outcomes in patients hospitalized with Covid-19."

11 August 2020

Am J Infect Control: What are the sources of exposure in healthcare personnel with coronavirus disease 2019 infection?

Cleveland VA-based study: "In our facility, 25% of personnel with coronavirus disease 2019 (COVID-19) had a higher-risk exposure to an infected patient or co-worker and 14% reported a higher-risk exposure in the community. All higher-risk exposures to infected patients occurred on non-COVID-19 units, often when there was a delay in diagnosis because COVID-19 was not initially suspected. Higher-risk exposures to co-workers with COVID-19 often involved lapses in compliance with masking in non-patient care areas such as nursing stations and staff work or break rooms."

BMJ: Management of post-acute covid-19 in primary care

"What you need to know

- Management of covid-19 after the first three weeks is currently based on limited evidence
- Approximately 10% of people experience prolonged illness after covid-19
- Many such patients recover spontaneously (if slowly) with holistic support, rest, symptomatic treatment, and gradual increase in activity
- Home pulse oximetry can be helpful in monitoring breathlessness
- Indications for specialist assessment include clinical concern along with respiratory, cardiac, or neurological symptoms that are new, persistent, or progressive"

J Adolesc Health: Association Between Youth Smoking, Electronic Cigarette Use, and Coronavirus Disease 2019

"The findings from a national sample of adolescents and young adults show that electronic cigarette use and dual use of electronic cigarettes and cigarettes are significant underlying risk factors for coronavirus disease 2019. Health care providers, parents, schools, community-based organizations, and policymakers must help make youth aware of the connection between smoking and vaping and coronavirus disease."

J Pediatric Infect Dis Soc: Burden of illness in households with SARS-CoV-2 infected children

"We investigated the dynamics of illness among household members of SARS-CoV-2 infected children that received medical care (n=32). We identified 144 household contacts (HCs): 58 children and 86 adults. Forty-six percent of HCs developed symptoms consistent with COVID-19 disease. Child-to-adult transmission was suspected in 7 cases."

[**JAMA Intern Med**](#): Prevalence of SARS-CoV-2 Infection Among Health Care Workers in a Tertiary Community Hospital

"The findings of the present study indicate that the rate of SARS-CoV-2 infection among health care workers is lower than what has been reported for the general public in the surrounding region. Given that health care workers in hospitals are exposed to a much higher density of the virus, this is strong evidence that current PPE practices are protective, easing health care workers' concern and psychological distress."

[**JAMA Intern Med**](#): Filtration Efficiency of Hospital Face Mask Alternatives Available for Use During the COVID-19 Pandemic

"Question: How effective are the aerosol filtration efficiencies for fitted face mask alternatives used during the coronavirus disease 2019 pandemic?

Findings: In this quality-improvement study of 29 fitted face mask alternatives, expired N95 respirators with intact elastic bands and masks that had been subjected to ethylene oxide and hydrogen peroxide sterilization had unchanged fitted filtration efficiencies (FFEs) of more than 95%, while the performance of N95 respirators in the wrong size resulted in decreased FFEs between 90% and 95%. As a group, surgical and procedure masks had lower FFEs relative to N95 respirators, with masks secured with elastic ear loops showing the lowest performance.

Meaning: When new N95 respirators are unavailable, N95 respirators past their expiration date; sterilized, used N95 respirators; and other less common respirators can be acceptable alternatives."

[**Lancet Planet Health**](#): Forward planning for disaster-related mass gatherings amid COVID-19

"During this COVID-19 era, plans should identify facilities for phased relocation of hospitalised patients, or outline capacity arrangements for on-site emergency care, and special care options for people with pre-existing conditions. Resources should also be identified for disease outbreaks and post-disaster follow-up to counter the increased burden of infections, and crucial medical resources should be stockpiled.⁷ Intensive care unit (ICU) capacity could be increased by making use of a range of hospitals and non-ICU staff under supervision. Oxygen is a critical resource, and compressed gas cylinders are an option to ensure an uninterrupted supply. To achieve sufficient physical distancing between family clusters during disaster-related evacuations, past estimates of requirements for shelters and transportation for mass movement of people should be revised by at least a 3-times increase, to account for physical distancing."

[Science](#): Systems biological assessment of immunity to mild versus severe COVID-19 infection in humans

"COVID-19 represents a global crisis, yet major knowledge gaps remain about human immunity to SARS-CoV-2. We analyzed immune responses in 76 COVID-19 patients and 69 healthy individuals from Hong Kong and Atlanta. In PBMCs of COVID-19 patients, there was reduced expression of HLA-DR and pro-inflammatory cytokines by myeloid cells, and impaired mTOR-signaling and IFN- α production by plasmacytoid DCs. In contrast, there were enhanced plasma levels of inflammatory mediators, including EN-RAGE, TNFSF14, and oncostatin-M, which correlated with disease severity and increased bacterial products in human plasma. Single-cell transcriptomics revealed no type-I IFN, reduced HLA-DR in myeloid cells of severe patients, and transient expression of IFN-stimulated genes. This was consistent with bulk PBMC transcriptomics, and transient, low plasma IFN- α levels during infection. These results reveal mechanisms and potential therapeutic targets for COVID-19."

10 August 2020

[Am J Trop Med Hyg](#): COVID-19–Related Infodemic and Its Impact on Public Health: A Global Social Media Analysis

"Infodemics, often including rumors, stigma, and conspiracy theories, have been common during the COVID-19 pandemic. Monitoring social media data has been identified as the best method for tracking rumors in real time and as a possible way to dispel misinformation and reduce stigma. However, the detection, assessment, and response to rumors, stigma, and conspiracy theories in real time are a challenge. Therefore, we followed and examined COVID-19–related rumors, stigma, and conspiracy theories circulating on online platforms, including fact-checking agency websites, Facebook, Twitter, and online newspapers, and their impacts on public health. Information was extracted between December 31, 2019 and April 5, 2020, and descriptively analyzed. We performed a content analysis of the news articles to compare and contrast data collected from other sources. We identified 2,311 reports of rumors, stigma, and conspiracy theories in 25 languages from 87 countries. Claims were related to illness, transmission and mortality (24%), control measures (21%), treatment and cure (19%), cause of disease including the origin (15%), violence (1%), and miscellaneous (20%). Of the 2,276 reports for which text ratings were available, 1,856 claims were false (82%). Misinformation fueled by rumors, stigma, and conspiracy theories can have potentially serious implications on the individual and community if prioritized over evidence-based guidelines. Health agencies must track misinformation associated with the COVID-19 in real time, and engage local communities and government stakeholders to debunk misinformation."

ICYMI (In Case You Missed It)

[PNAS](#): Tracking the reach of COVID-19 kin loss with a bereavement multiplier applied to the United States (28 July 2020; first published 10 July 2020)

"COVID-19 has created a mortality shock throughout the world, and it may yield a second wave of population health concerns tied to bereavement and social support reductions. We created the COVID-19 bereavement multiplier, an indicator that clarifies one downstream impact of COVID-19 mortality and can be applied to different epidemiological projections of death counts: How many people are at risk for losing a grandparent, parent, sibling, spouse, or child for each COVID-19 death. In the United States, we estimate that on average, under diverse epidemiological circumstances, every death from COVID-19 will leave approximately nine bereaved. Studying how acute mortality crises reverberate through a population in the form of bereavement multipliers expands understandings of the social impacts of health crises."

Selected Literature: Preprints

Preprints are found on preprint servers such as [arXiv](#), [bioRxiv](#), and [medRxiv](#); they are commonly used for biomedical research. Per medRxiv:

"Preprints are preliminary reports of work that have not been certified by peer review. They should not be relied on to guide clinical practice or health-related behavior and should not be reported in news media as established information."

Preprints may later be published in peer-reviewed journals.

[ICL](#): Antibody prevalence for SARS-CoV-2 following the peak of the pandemic in England: REACT2 study in 100,000 adults (posted 13 August 2020)

Editorial note: The source of this report notes it was submitted to medRxiv, but a search of that and related preprint servers did not find it documented at the time of this writing.

"Background: England, UK has experienced a large outbreak of SARS-CoV-2 infection. As in USA and elsewhere, disadvantaged communities have been disproportionately affected.

Methods: National REal-time ASsessment of Community Transmission-2 (REACT-2) seroprevalence study using self-administered lateral flow immunoassay (LFIA) test for IgG among a random population sample of 100,000 adults over 18 years in England, 20 June to 13 July 2020.

Results: Completed questionnaires were available for 109,076 participants, yielding 5,544 IgG positive results and adjusted (for test performance), re-weighted (for sampling)

prevalence of 6.0% (95% CI: 5.8, 6.1). Highest prevalence was in London (13.0% [12.3, 13.6]), among people of Black or Asian (mainly South Asian) ethnicity (17.3% [15.8, 19.1] and 11.9% [11.0, 12.8] respectively) and those aged 18-24 years (7.9% [7.3, 8.5]). Care home workers with client-facing roles had adjusted odds ratio of 3.1 (2.5, 3.8) compared with non-essential workers. One third (32.2%, [31.0-33.4]) of antibody positive individuals reported no symptoms. Among symptomatic cases, the majority (78.8%) reported symptoms during the peak of the epidemic in England in March (31.3%) and April (47.5%) 2020. We estimate that 3.36 million (3.21, 3.51) people have been infected with SARS-CoV-2 in England to end June 2020, with an overall infection fatality ratio of 0.90% (0.86, 0.94).

Conclusion: The pandemic of SARS-CoV-2 infection in England disproportionately affected ethnic minority groups and health and care home workers. The higher risk of infection in these groups may explain, at least in part, their increased risk of hospitalisation and mortality from COVID-19."

[medRxiv](#): Effect of Convalescent Plasma on Mortality among Hospitalized Patients with COVID-19: Initial Three-Month Experience (posted 12 August 2020)

"Importance: Passive antibody transfer is a longstanding treatment strategy for infectious diseases that involve the respiratory system. In this context, human convalescent plasma has been used to treat coronavirus disease 2019 (COVID-19), but the efficacy remains uncertain.

Objective: To explore potential signals of efficacy of COVID-19 convalescent plasma.

Design: Open-label, Expanded Access Program (EAP) for the treatment of COVID-19 patients with human convalescent plasma.

Setting: Multicenter, including 2,807 acute care facilities in the US and territories.

Participants: Adult participants enrolled and transfused under the purview of the US Convalescent Plasma EAP program between April 4 and July 4, 2020 who were hospitalized with (or at risk of) severe or life threatening acute COVID-19 respiratory syndrome.

Intervention: Transfusion of at least one unit of human COVID-19 convalescent plasma using standard transfusion guidelines at any time during hospitalization. Convalescent plasma was donated by recently-recovered COVID-19 survivors, and the antibody levels in the units collected were unknown at the time of transfusion.

Main Outcomes and Measures: Seven and thirty-day mortality.

Results: The 35,322 transfused patients had heterogeneous demographic and clinical characteristics. This cohort included a high proportion of critically-ill patients, with 52.3% in the intensive care unit (ICU) and 27.5% receiving mechanical ventilation at the time of plasma transfusion. The seven-day mortality rate was 8.7% [95% CI 8.3%-9.2%] in patients transfused within 3 days of COVID-19 diagnosis but 11.9% [11.4%-12.2%] in patients

transfused 4 or more days after diagnosis ($p<0.001$). Similar findings were observed in 30-day mortality (21.6% vs. 26.7%, $p<0.0001$). Importantly, a gradient of mortality was seen in relation to IgG antibody levels in the transfused plasma. For patients who received high IgG plasma (>18.45 S/Co), seven-day mortality was 8.9% (6.8%, 11.7%); for recipients of medium IgG plasma (4.62 to 18.45 S/Co) mortality was 11.6% (10.3%, 13.1%); and for recipients of low IgG plasma (<4.62 S/Co) mortality was 13.7% (11.1%, 16.8%) ($p=0.048$). This unadjusted dose-response relationship with IgG was also observed in thirty-day mortality ($p=0.021$). The pooled relative risk of mortality among patients transfused with high antibody level plasma units was 0.65 [0.47-0.92] for 7 days and 0.77 [0.63-0.94] for 30 days compared to low antibody level plasma units.

Conclusions and Relevance: The relationships between reduced mortality and both earlier time to transfusion and higher antibody levels provide signatures of efficacy for convalescent plasma in the treatment of hospitalized COVID-19 patients. This information may be informative for the treatment of COVID-19 and design of randomized clinical trials involving convalescent plasma."

ClinicalTrials.gov Identifier: [NCT04338360](https://clinicaltrials.gov/ct2/show/NCT04338360)

medRxiv: Low awareness of past SARS-CoV-2 infection in healthy adults (posted 12 August 2020)

"Background The coronavirus disease 2019 (COVID-19) pandemic challenges governments worldwide to balance appropriate virus control measures and their societal and economic consequences. These control measures include the identification, isolation and testing of potentially infected individuals. As this relies on an individual's awareness of infection, we investigated the extent to which healthy adults suspected having had COVID-19, and how COVID-19 suspicion and symptoms relate to antibodies indicative of a past infection with the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).

Methods and findings Individuals donating plasma anywhere in the Netherlands between May 11th and 18th were screened for total SARS-CoV-2 antibodies using ELISA and invited to participate in an online questionnaire about COVID-19-related symptoms and awareness. Antibody and questionnaire data were complete for 3,676 individuals, including 239 (6.5%) that tested positive for SARS-CoV-2 antibodies. Here, we show that a 38% of the individuals that tested positive for SARS-CoV-2 antibodies reported having had no or only very mild symptoms at any time during the peak of the epidemic. The loss of taste and/or smell in particular was significantly associated with seropositivity, independent of age and sex. Forty-eight percent of antibody-positive persons did not suspect having had COVID-19, in spite of most of them reporting symptoms.

Conclusions Awareness of infection was low among individuals that tested positive for SARS-CoV-2 antibodies, even at the peak of the epidemic. Improved awareness and

recognition of COVID-19 symptoms and tracing of asymptomatic contacts is crucial to halting SARS-CoV-2 transmission."

[medRxiv](#): Compound risks of hurricane evacuation amid the COVID-19 pandemic in the United States (posted 11 August 2020)

"Current projections and unprecedented storm activity to date suggest the 2020 Atlantic hurricane season will be extremely active and that a major hurricane could make landfall during the global COVID-19 pandemic. Such an event would necessitate a large-scale evacuation, with implications for the trajectory of the pandemic. Here we model how a hypothetical hurricane evacuation from four counties in southeast Florida would affect COVID-19 case levels. We find that hurricane evacuation increases the total number of COVID-19 cases in both origin and destination locations; however, if transmission rates in destination counties can be kept from rising during evacuation, excess evacuation-induced case numbers can be minimized by directing evacuees to counties experiencing lower COVID-19 transmission rates. Ultimately, the number of excess COVID-19 cases produced by the evacuation depends on the ability of destination counties to meet evacuee needs while minimizing virus exposure through public health directives."

[medRxiv](#): Viable SARS-CoV-2 in the air of a hospital room with COVID-19 patients (posted 04 August 2020)

"Background - There currently is substantial controversy about the role played by SARS-CoV-2 in aerosols in disease transmission, due in part to detections of viral RNA but failures to isolate viable virus from clinically generated aerosols.

Methods - Air samples were collected in the room of two COVID-19 patients, one of whom had an active respiratory infection with a nasopharyngeal (NP) swab positive for SARS-CoV-2 by RT-qPCR. By using VIVAS air samplers that operate on a gentle water-vapor condensation principle, material was collected from room air and subjected to RT-qPCR and virus culture. The genomes of the SARS-CoV-2 collected from the air and of virus isolated in cell culture from air sampling and from a NP swab from a newly admitted patient in the room were sequenced.

Findings - Viable virus was isolated from air samples collected 2 to 4.8m away from the patients. The genome sequence of the SARS-CoV-2 strain isolated from the material collected by the air samplers was identical to that isolated from the NP swab from the patient with an active infection. Estimates of viable viral concentrations ranged from 6 to 74 TCID50 units/L of air.

Interpretation - Patients with respiratory manifestations of COVID-19 produce aerosols in the absence of aerosol-generating procedures that contain viable SARS-CoV-2, and these aerosols may serve as a source of transmission of the virus."

Information Sources: Vaccine Trackers

Curious about what coronavirus vaccines are under development? Check out these vaccine trackers:

- [COVID-19 candidate vaccines](#) (WHO)
- [Coronavirus vaccine tracker](#) (NYT)
- [COVID-19 vaccine tracker](#) (RF)
- [Covid-19 drugs & vaccines tracker](#) (STAT)
- [COVID-19 treatment and vaccine tracker](#) (FasterCures)
- [Covid vaccine tracker](#) (Guardian)

Events (Webinars, Calls, etc.)

WHAT: 2020-2021 Influenza Vaccination Recommendations and Clinical Guidance during the COVID-19 Pandemic (CDC COCA)

WHEN: Thursday, 20 August 2020 1400-1500 ET

TOPIC: " During this COCA Call, presenters will discuss updates to the Advisory Committee on Immunization Practices (ACIP) recommendations for the 2020-2021 influenza vaccination season. Topics will include the Standards for Adult Immunization Practice, flu vaccination planning, general vaccination guidance during the COVID-19 pandemic, and guidance for large vaccination clinics held in satellite, temporary, or off-site locations."

DETAILS: https://emergency.cdc.gov/coca/calls/2020/callinfo_082020.asp

News in Brief

Russia has approved a COVID vaccine that did not go through completed clinical trials and only studied in dozens of people for less than 2 months. According to President Valdimir Putin, the vaccine provides "sustainable immunity" and that one of his 2 adult daughters was already inoculated ([AP](#)). The vaccine, which has been named Sputnik V, has raised concerns from even Russian doctors, many of whom are not comfortable getting it, according to a new survey ([Reuters](#)).

New Zealand, which recently marked 100 days without any new cases of coronavirus, now has a cluster of 29 cases; Auckland – the largest city with a population of 1.5 million – is under lockdown for 12 days ([BBC](#)).

Here to Stay

There's a chance COVID-19 will never fully go away — with or without a vaccine ([NPR](#)).

COVID-19 is not just an acute problem; it looks more like a chronic illness with lasting damage in multiple ways ([STAT](#)).

A new forecast from the University of Washington estimates the death toll from COVID-19 to reach 300,000 by December ([IHME](#)).

This fall could be the worst ever, according to CDC director ([NPR](#)), so buckle up, folks: winter is coming ([STAT](#)).

Transmission, Testing, and Tracing

Native American groups have been hit hard by coronavirus infection yet some have lower death rates, and experts suspect intensive contact tracing is to thank for saving lives ([NYT](#)).

What we are learning from the contact tracing data from the 13 states who have made it public: no one wants to give names, getting phone numbers is challenging, transmission is happening in communities and where people congregate in large groups ([NPR](#)).

This tool can help you measure the risk of airborne SARS-CoV-2 in your space ([NatGeo](#)).

Research and Data

Experts are raising more concerns about the shift in how Covid data is reported to the government, saying it puts a greater burden on hospitals and may compromise data integrity ([NYT](#)).

COVID-19 patients, so-called "long haulers", are organizing themselves online and collecting data on their condition ([MIT Tech Rev](#)).

Researchers have been studying drug treatments for the coronavirus for over 6 months, but they still don't know much because the system is broken ([Wired](#)).

Monoclonal antibodies ([STAT](#)) and nanobodies inspired by llamas ([STAT](#)) are some of the experimental treatments being developed to fight COVID-19.

Long read: "The Covid drug wars that pitted doctor vs. doctor" ([NYTM](#); includes audio [42 mins])

Back to School and Work

Eight days after reopening, a Georgia school district has closed a high school after having over 1,100 students and staff in quarantine ([NBC](#)).

Many healthcare workers who get sick with the coronavirus feel pressured to go back to work ([KHN](#)).

Dealing with Loss

"Every day, the nation is reminded of COVID-19's ongoing impact as new death counts are published. What is not well documented is the toll on family members." ([KHN](#))

Lost on the frontline: an accounting and investigation of the US healthcare workers who have died fighting Covid-19; as of this writing, the count is 922 deaths ([KHN](#)).

Other Infectious Diseases and Outbreaks

In a bit of irony, the CDC closed several buildings it leases in Atlanta because *Legionella* bacteria was found in the buildings' water systems, likely due to pandemic-related shutdowns and lack of use ([GPB](#)).

Researchers have found that New York City's overall mortality from the COVID-19 outbreak were higher than in the 1918 influenza pandemic ([Medpage](#); see [JAMA Netw Open article](#) for more).

A new "Notes from the Field" report describes 3 cases of multidrug-resistant tuberculosis in an Ohio food-processing facility ([MMWR](#)).

"Researchers are redoubling efforts to understand links between biodiversity and emerging diseases — and use that information to predict and stop future outbreaks" ([Nature](#)).

Thanks, Coronavirus

It's not just you... pandemic fatigue is real ([WaPo](#)).

The economic impact of the pandemic continues – an aquarium in North Carolina is using closures as an opportunity to drain a waterfall of its "wishes", which will hopefully pay some bills (and maybe help with that coin shortage, too) ([NPR](#)).

The future of mass gatherings for concerts and other events might be socially-distanced pods ([BuzzFeed](#)).

It's likely that the pandemic will change not only how movies and TV shows are made, but what they look like, too ([WaPo](#)).

More Long Reads

"Meet the most important federal official you probably don't know — the man who holds the fate of the coronavirus vaccine in his hands" ([WaPo](#)).

"Immunology is where intuition goes to die" ([Atlantic](#)).

"Pulse oximeters give biased results for people with darker skin. The consequences could be serious." ([Boston Review](#))

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